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EXAMINER

PHAN, TRI H

ART UNIT PAPER NUMBER

2661

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/643,203

Applicant(s)

FATEHI ET AL.

Examiner

Tri H. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment/Arguments

1. This Office Action is in response to the Response/Amendment filed on September 12th, 2005. Claims 7-8 are now canceled. Claims 1-6 and 9-19 are now pending in the application.

Drawings

2. This application has been filed with informal drawings (Figures 1-2 and 9), which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

3. Claims 1 and 14-19 are objected to because of the following informalities:

Claims 1, 14-15 and 17-19 are objected to under 37 C.F.R 1.75, because the term “*capable of*” are not positively recited claimed limitation. It is suggested applicants remove the terms.

In claim 16, the recitation “*signaling*” (in line 28) is not clear whether the limitation is referred to the “*signaling information*” (line 8) or “*signaling connection*” (line 14) or “*signaling message*” (lines 19 and 26); and also, the recitation “*the container*” (line 29) is not clear whether the limitation is referred to the “*first*” or “*second*” digital container.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 9, and 12-19 are rejected under 35 U.S.C. 102(e) as being anticipated by **Jha, Pankaj K.** (U.S.6,847,644; hereinafter refer as ‘**Jha**’).

- In regard to claims 1 and 17, **Jha** discloses about the *system and method for transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes* (for example see figures 2-4, 14 where the user nodes are inherent served by the network node in the optical network), *the method comprising forming a digital container at a first network node, the digital container including a header section and a payload section, wherein the payload section is capable of carrying a plurality of separate transmissions and each transmission may be formatted according to one of many different protocols* (for example see figure 5; wherein the network node such as the devices 102a-102n in figures 3-4, e.g. “*first network node*”, receive different types of data as disclosed in col. 8, lines 46-67; and form the HDT frames inside the SONET/SDH frames, e.g. “*digital container*”, as disclosed in figure 5; col. 10, lines 39-48); *routing the digital container through the communication network based only on destination information contained within the header*

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section of the digital container (for example see figures 13-14; col. 7, lines 23-33 wherein the packets are routing in response to the MPLS labels as disclosed in figure 6; col. 9, lines 23-33); *receiving and processing the digital container at a second network node* (for example see figures 10-11, 14) *and routing the separate transmissions carried in the payload section of the digital container to one or more user nodes serviced by the second network node without the digital container, wherein the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node* (for example see figures 3-4, 14; col. 7, lines 23-33; col. 15, lines 50-56; wherein the user data packets in the SPE in figure 5 are received and processed for delivering based on the node destination address as disclosed in figures 10-11, 14, without the payload header which carry the MPLS labels containing the network node address for delivering to network nodes as disclosed in col. 9, lines 29-33, e.g. “without the digital container”).

- Regarding claims 14 and 18, **Jha** discloses about the *system and method for transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes* (for example see figures 2-4, 14 where the user nodes are inherent served by the network node in the optical network), *the method comprising forming a digital container at a first network node, the digital container including a header section and a payload section, wherein the payload section is capable of carrying a plurality of separate transmissions and each transmission may be formatted according to one of many different protocols* (wherein the network node such as the devices 102a-102n in figures 3-4, e.g. “first network node”, receive different types of data as disclosed in figures 3-4; col. 8,

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lines 46-67; and form the HDT frames inside the SONET/SDH frames, e.g. “*digital container*”, as disclosed in figure 5; col. 10, lines 39-48) *and addressing the digital container for routing to a second network node such that routing of the digital container through the communication network is based only on destination information contained within the header section of the digital container and the digital container is not routed to a user node* (for example see figures 6, 14; col. 9, lines 23-45; col. 15, lines 50-56; wherein the MPLS label containing the network node address for delivering to network nodes is not part of the payload, e.g. “*digital container is not routed to a user node*”), *wherein the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node* (for example see figures 2-5, 11, 14; col. 7, lines 23-33; col. 15, lines 50-56; wherein the user data packets in the SPE in figure 5 are received and processed for delivering based on the node destination address as disclosed in details in figures 10-11). It is also inherent that a network node must have a “*processor*” and “*routing element*” in order to process functions such as control receiving/transmitting user data as in figure 11, forming the hybrid data transport frame as in figure 5, and for routing/switching the frames through the networks to users based on the MPLS labels as disclosed in figures 3-4, 14; col. 7, lines 23-33.

- In regard to claims 15 and 19, **Jha** discloses about the *system and method for transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes* (for example see figures 2-4 and 14 where the user nodes are inherent served by the network node in the optical network), *the method comprising receiving, at a second network node* (for example see figures 10-11, 14; col. 15, lines

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50-56; wherein any network node in figures 3-4 or 14 can be a “*second network node*” in receiving frames, e.g. ‘add/drop multiplexer’ as disclosed in col. 15, lines 28-30), *a digital container transmitted by a first network node* (for example see figure 12, 14; col. 14, lines 34-38; wherein any network node can be a “*first network node*” for transmitting frames, e.g. ‘add/drop multiplexer’ as disclosed in col. 15, lines 28-30) *using only destination information corresponding to the digital container, the digital container including a header section and a payload section, wherein the payload section is capable of carrying a plurality of separate transmissions and each transmission may be formatted according to one of many different protocols (“digital container”;* for example see figure 5; wherein the packets are routing in response to the MPLS labels, link layer addresses as disclosed in figure 6; col. 9, lines 23-33); *processing the digital container at the second network node* (for example see figures 10-11, 14) *and routing the separate transmissions carried in the payload section of the digital container to one or more user nodes serviced by the second network node, wherein the digital container is not routed to a user node and the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node* (for example see figures 3-4, 14; col. 7, lines 23-33; col. 15, lines 50-56; wherein the user data packets in the SPE in figure 5 are received and processed for delivering based on the node destination address as disclosed in figures 10-11, 14, without the payload header which carry the MPLS labels containing the network node address for delivering to network nodes as disclosed in col. 9, lines 29-33, e.g. “*without the digital container*”).

- Regarding claim 16, **Jha** discloses about the *system and method for transporting signaling information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes* (for example see figures 2-4 and 14 where the user nodes are inherent served by the network node in the optical network), *the method comprising a) establishing a communications connection between a first and second network node* (for example see figures 2-4 wherein any network node in figures 3-4 can be a “first or second network node”) *by 1) forming a first digital container* (for example see figures 5-8) *at a first network node, the first digital container including signaling information for establishing a route between the first and second network nodes* (for example see col. 10, lines 16-21 where the MPLS and route labels in the header 202 provide the route for routing packets, e.g. “signaling information for establishing a route between the first and second network nodes”), *2) routing the first digital container through the communication network and 3) receiving and processing the first digital container at the second network node to thereby establish the communication connection* (for example see figures 10-11, 14; col. 15, lines 50-56); *and b) establishing a signaling connection between a first and second user node, the first user node being coupled to the first network node and the second user node being coupled to the second network node* (for example see figures 2-4 and 14 where the “first” and “second” user nodes are inherent served by the “first” and “second” network nodes such as network nodes 102a-n in figures 3-4), *by 1) forming a second digital container at a first network node, the second digital container including a header section and a payload section* (for example see figures 5-6; col. 8, lines 60-67; col. 11, lines 16-22; wherein the SONET/SDH add/drop multiplexer adds/drops user data packets; therefore, forming the “second digital container”), *wherein the payload section comprises one or*

more signaling messages supplied by the first user node (“signaling messages”; for example see figure 6, 8-9; wherein the layer 2/3 address portions 156, 160 in figure 6 provides the source and destination address for connecting between nodes to as disclosed in col. 9, lines 34-45; and where the OAM bytes in the MPLS labels provides the link management as disclosed in col. 13, lines 9-12), 2) *routing the second digital container through the communication network based only on destination information contained within the header section of the second digital container* (for example see figure 14; wherein the MPLS and layer 2/3 address portions 156, 160 in the header portion, see figure 6, provides the source and destination address for routing), 3) *receiving and processing the second digital container at the second network node* (for example see figures 10-11, 14; col. 15, lines 50-56) and 4) *routing the one or more signaling messages carried in the payload section of the second digital container to the second user node serviced by the second network node, such that signaling is established between the first and second user nodes and the container is not routed to a user node* (wherein the packets in the SONET SPE are received by the network node, e.g. “second network node”, as disclosed in figure 14; col. 15, lines 50-56; and processed through the process as disclosed in figures 10-11; for delivering packets to user nodes based on the types and destination address in the header of the packet in figure 6; without the header 202 of the SONET/SDH payload envelop ‘SPE’ 200 in figure 5, e.g. “container is not routed to a user node”).

- In regard to claims 2-3, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), **Jha** further discloses *wherein the method according to claim 1, further comprising the step of processing the separate transmissions*

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according to the one or more protocols at the one or more user nodes (for example see figures 2-3 wherein the operations for processing ATM cells, POS, PDH and delivering to the destination address are provided as disclosed in figure 11); wherein the payload section of the digital container comprises a heterogeneous payload having a plurality of units of traffic selected from the group consisting of an Asynchronous Transfer Mode (ATM) cell, an Internet Protocol (IP) packet, a streaming video bitstream, a real-time video bitstream, voice traffic stream, a Time Division Multiplex (TDM) sample, a SONET frame, a DS-n signal, where n is an integer, and signaling messages according to a prescribed signaling scheme (for example see figure 5; col. 10, lines 39-48; where the SONET/SDH payload envelop 'SPE' contains different types of data).

- Regarding claims 4-5, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), **Jha** further discloses *wherein the digital container is formed as a signaling-type container for establishing a communications connection between network nodes* (for example see 'OAM' bytes 268 in the packet header: figure 8; col. 12, lines 47-51); wherein the digital container is formed as a signaling-type container for establishing a communications connection between user nodes (for example see 'OAM' bytes 282 in the payload header: figure 9; col. 13, lines 9-12).

- Regarding claims 6, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), **Jha** further discloses *wherein the step of forming comprises forming a digital container of a fixed size* (where the SONET/SDH network uses the fixed-length framing as disclosed in col. 1, lines 28-34; col. 2, lines 37-40).

- In regard to claims 9 and 12-13, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), **Jha** further discloses *wherein the header section includes an optical logical channel identification 'OCLI' field for identifying the destination of the digital container* (for example see figure 6; table 1 in col. 4; where the MPLS labels, layer 2/3 addresses in the frame's header, e.g. "*OCLI field*", provide the destination address for delivering frames); *wherein the OCLI field comprises a network node destination address ('layer 3 address' in figure 6) and one or more user node destination addresses ('layer 2 address' in figure 6), wherein the network node destination address corresponds to the second network node and wherein the one or more user node destination addresses correspond to one or more user nodes serviced by the second network node* (where the layer 3 address in the frame's header provides network address for routing, e.g. "*routing the digital container based on the destination identified in the OCLI field*", and layer 2 address in the frame's header provides the destination address, e.g. 'user address', for delivering data).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Jha, Pankaj K.** (U.S.6,847,644).

- Regarding claim 10, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), **Jha** further discloses *wherein the header section further includes a payload control field* ('packet identifier 152' and 'destination MAC address' in figure 6) *for indicating whether contents of the payload section of the digital container are dedicated to a single user node* (**Jha** does not explicitly disclose wherein the packet identifier 152 of the frame's header is "*dedicated to a single user node*"; however, in the case of data transmission which use ATM cells for the entire SONET/SDH SPE as disclosed in figure 1; col. 2, lines 37-40, it is obvious that the packet identifier is used for identifying the type of the packet being carried in the user data's payload 162, e.g. 'ATM' cells, and wherein the destination MAC address in the layer 2 address 156 is processed as disclosed in figure 11 and used for delivering only to the user which uses ATM protocol, e.g. "*dedicated to a single user node*").

Thus it would have been obvious to one with ordinary skill in the art at the time of invention to include the "*payload control field*" for indicating whether the contents for the payload section are "*dedicated to a single user node*" for the purpose of fast routing and delivering the digital container to the user node. The motivation is by having the "*payload control field*" for indicating whether the contents for the payload section are "*dedicated to a single user node*" that the transmission can be run at full speed and effect bandwidth as disclosed in col. 7, lines 44-46.

- In regard to claim 11, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), **Jha** further discloses *wherein the header section further includes a payload control field* ('packet identifier 280' in figure 9 and 'MPLS route labels' 268 in figure 8) *for indicating whether contents of the payload section of the digital container are intended for two or more user nodes serviced by the same network node* (**Jha** does not explicitly disclose whether the packet identifier "indicates whether the contents of the payload section ... are intended for two or more user nodes"; however, it is obvious that the packet identifier 280 in the payload header identifies for the different types of the packets being carried in the payload 274, e.g. 'ATM' cells, PPP, IP, Ethernet, PHP, etc. for different users or "intended for two or more user nodes"; and where the MPLS route labels 268 provide the network node address for routing to, e.g. network node serves the users with different types of packets or "serviced by the same network node").

Thus it would have been obvious to one with ordinary skill in the art at the time of invention to include the "payload control field" for indicating whether the contents for the payload section are "intended for two or more user nodes served by the same network node" for the purpose of fast routing and delivering the digital container to the user nodes. The motivation is by having the "payload control field" for indicating whether the contents for the payload section are "intended for two or more user nodes served by the same network node" that the transmission can be run at full speed and effect bandwidth as disclosed in col. 7, lines 44-46.

Response to Amendment/Arguments

8. Applicant's arguments filed on September 12th, 2005 with respect to claims 1-6 and 9-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zheng et al. (U.S.6,611,522), **O'Connor, Donald** (U.S.6,356,544) and **Kerns et al.** (U.S.6,819,679) are all cited to show devices and methods for improving the transmission over optical network in the telecommunication architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on (571) 272-3126.

Any response to this action should be mailed to:

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Washington, D.C. 20231

or faxed to:

(571) 273-8300

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Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tri H. Phan
January 4, 2006



BRIAN NGUYEN
PRIMARY EXAMINER